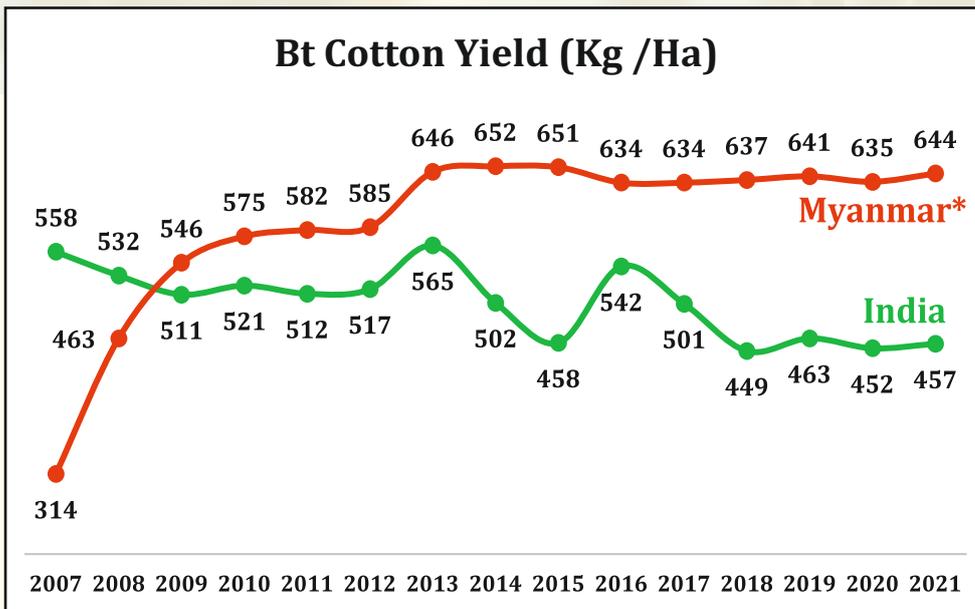




India

Alarming Decline in Bt Cotton Yield



Source: IndexMundi

*Myanmar is shown as an example by choice.



Both India and Myanmar introduced Bt cotton almost at the same time in 2002. The only difference is that India introduced Bt cotton hybrids whereas Myanmar introduced Bt cotton varieties.



By 2007, about **60-70%** of the area was under Bt cotton in both the countries.



The average Bt cotton yield in India in 2007 was much higher than in Myanmar. Since then, however, there has been a steady fall. The yield in India decreased from **558 kgs/ha to 457 kgs/ha** between 2007 and 2021.

Words of Wisdom

“It's time for India to adopt world standards in cotton productivity. All stakeholders must share best practices to boost cotton productivity in India to boost farmer incomes.”

- Shri. Piyush Goyal,
Textiles Minister,
The Economic Times
25th July 2022

“Growth of cotton production and productivity is vital to employment growth in the country. Short- and long-term strategies are needed to be worked out.”

- Shri. Narendra Singh Tomar,
Agriculture Minister,
The Economic Times
25th July 2022

- During this period, the cotton yield in Myanmar increased from **314 kgs/ha** to **644 kgs/ha**.
- In fact, the average cotton yield in India is now back to 2004-05 level when Bt cotton was in the early stages of adoption. During 2004-05, the area under Bt cotton in India was just around **10%**. The rest **90%** was under non-Bt cotton.

Why is Bt cotton yield on the unchecked downward path for over a decade in India?

And, what makes Myanmar and many other cotton producing countries outperform India on the yield front?

Myanmar uses Bt cotton varieties, ideal for rainfed conditions. There are reports that Myanmar farmers still use the Bt cotton varieties / cultivars developed way back in the year 2002.



India uses Bt cotton hybrids and not Bt cotton varieties. The cultivation of long duration hybrid Bt cotton is unique to India. In other cotton producing countries, Bt cotton varieties dominate.

What do experts say about this?

“I believe that, along with the Bt-hybrids, presence of Bt-varieties could have changed the Indian cotton scenario.”

- Dr. K.R. Kranthi,
Director, CICR,
Nagpur in 2012

“It was a big mistake to adapt Bt technology only in hybrids, and this is what led to yield stagnation and rapid resistance development. India is the only country in the world which has Bt (Bacillus thuringiensis) genes incorporated in hybrids. In China, Australia and the USA, it has been introduced in cotton varieties and not hybrids.”

- Experts want Bt tech in varieties and not hybrids,
The Times of India,
9th March 2016.

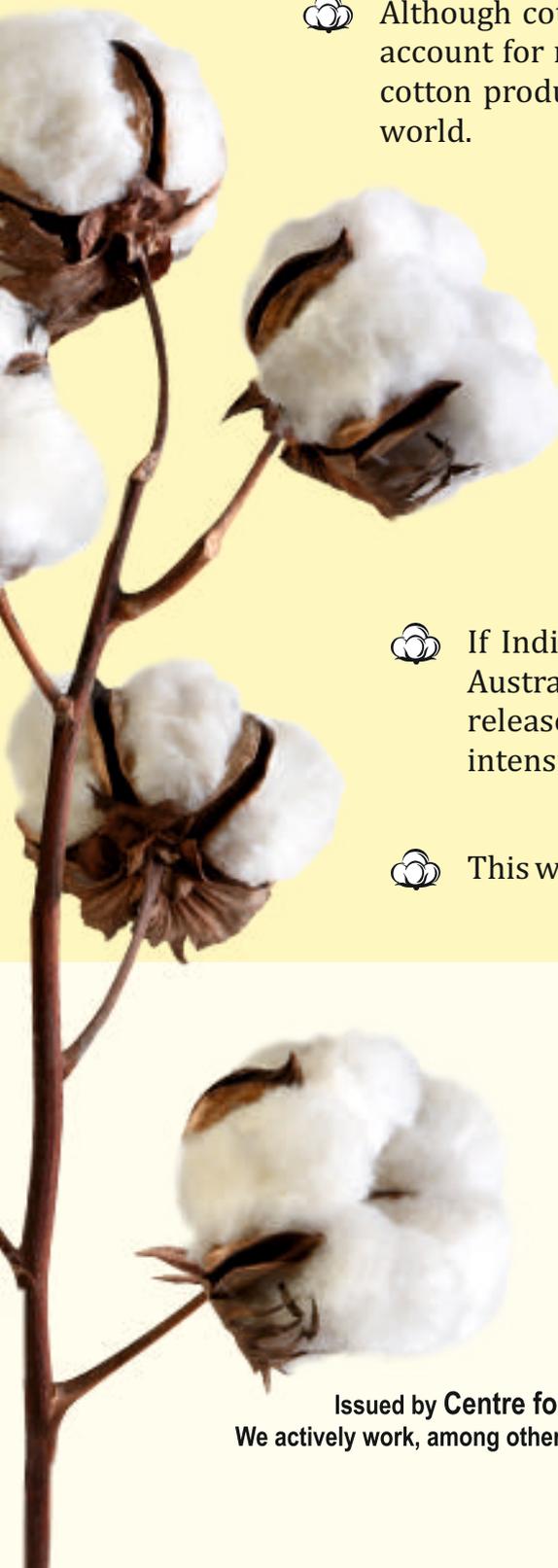
“Productivity enhancement in India can come from yield improvement in rainfed ecosystems through development and deployment of Bt cotton varieties.”

- Bt varieties for increasing cotton yields under rainfed ecosystem in India by
Dr. H.B. Santosh,
Scientist
(Plant Breeding),
ICAR-CICR, 2021

This expert advice needs attention now.

Variety is a genetic variant that occurs naturally. **Hybrid** is a cross between two varieties. Carefully selected “varieties” perform reasonably well in dry lands, even under drought stressed conditions. Hybrids perform well under irrigated conditions.

The solution lies within!

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- Although cotton is cultivated in **70** countries of the world, just **8** countries account for more than **80%** of global production. India is a global leader in cotton production. But, in terms of yield, it ranks among the lowest in the world.
 - Bt cotton cultivation in India needs a revamp to enhance the productivity. The path ahead requires to be different from the path travelled. Experts bat for introduction of Bt cotton to raise the yield level.
 - An inclusive approach involving both Bt cotton hybrid and Bt cotton variety is ideal for cotton cultivation in India.
 - If India manages to match the yield of Myanmar (if not the likes of Australia) nearly 20% of the present cotton area of 12 million ha can be released for growing other crops, especially oil seeds that are import intensive.
 - This will propel the overall agricultural economy in India.

